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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,405	11/19/2003	Tor Frederick Larson	MAT785/03309	7242
24118 7590 05/10/2007 HEAD, JOHNSON & KACHIGIAN 228 W 17TH PLACE TULSA, OK 74119			EXAMINER CASTELLANO, STEPHEN J	
			ART UNIT 3781	PAPER NUMBER
			MAIL DATE 05/10/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/717,405

Applicant(s)

LARSON ET AL.

Examiner

Stephen J. Castellano

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 14-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 11-19-03.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

Applicant's election with traverse of claims 1-13 directed to a spacerless or geo composite double bottom apparatus in the reply filed on March 13, 2007 is acknowledged. The traversal is on the ground(s) that the claims could easily be considered at this time. This is not found persuasive because (1) it doesn't specify any error with the restriction requirement. The examiner has established distinct inventions and a serious burden requiring different search areas.

The requirement is still deemed proper and is therefore made FINAL.

Claims 14-21 withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on March 13, 2007.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 10, 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coates in view of Walles, Kotcharian and Henneck et al. (Henneck).

Coates discloses a spacerless or geocomposite double bottom apparatus for a storage tank having a metal bottom and upwardly extending metal sidewalls as best shown in Fig. 1-4, the apparatus comprises a plastic grid for spacing an upper bottom from a lower metal bottom. Coates discloses the invention except for the upper bottom made of metal, the fiber insulation layer and the lining layer. Walles teaches a double walled tank with an outermost metal layer

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that is lined with a flexible plastic layer of polyethylene secured in place to the outermost metal layer, an intermediate layer for providing a leak detection space and inner layers. It would have been obvious to add the flexible plastic polyethylene lining layer between the outer metal layer and grid of Coates to protect the inner surface from damage from the grid. Kotcharian teaches a fiber insulation layer of glass wool. It would have been obvious to add the insulation between the grid and the metal bottom of Coates to protect the bottom surface and the liquid contents from spikes in temperature and high temperature in general which could damage the contents or cause degradation of the contents due to high temperature exposure. Henneck teaches an upper bottom surface of metal located above a permeable layer. It would have been obvious to modify the material of the upper bottom to be metal to provide a durable and strong layer to adequately hold the contents of the tank.

Re claim 2, Official notice is taken that high density polyethylene (HDPE) linings are well known for increased rigidity, strength and durability as compared to lower density polyethylenes. It would have been obvious to provide a lining of HDPE to prevent lining rupture.

Re claim 11, Walles teaches a fluid tight containment space that is a vacuum and purged of oxygen. It would have been obvious to modify the containment space to be purged of oxygen by reason of creating a vacuum to monitor leakage by monitoring the vacuum in the fluid tight space.

Re claim 13, Official notice is taken that sealants are well known for improving fluid tight enclosures by sealing the gas through which fluids may infiltrate the containment space. It

would have been obvious to use sealants at the sidewalls to prevent fluid from seeping around the the side edge and underneath the lining.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Coates in view of Walles, Kotcharian and Henneck as applied to claim 4 above, and further in view of Ziegenbein.

The Coates-Walles-Kotcharian-Henneck combination discloses the invention except for two layers of insulation. Ziegenbein teaches plural, adjacent, stacked layers of insulation. It would have been obvious to add another layer of insulation to increase the effectiveness of the insulation to further reduce temperature spikes and high temperatures.

Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coates in view of Walles, Kotcharian and Henneck as applied to claim 1 above, and further in view of Thomas.

The Coates-Walles-Kotcharian-Henneck combination discloses the invention except for the upper bottom extending through slots and the leak detection port. Thomas teaches the upper bottom extending through slots as shown in Fig. 5 and 6 and leak detection port (50, 56). It would have been obvious extend the upper bottom plates through slots to provide better alignment and to provide stability to the plates before and during welding to fix the plates into position. It would have been obvious to add a leak detection port to provide removable and detachable attachment of the leak detection equipment in a sealed manner through threaded fittings.

Re claim 7, it would have been obvious to remove welds below the upper bottom if such welds are deemed unnecessary. The present of all welds being above the upper bottom is

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interpreted insofar as Fig. 3 and 4 of the present invention show a weld below the upper bottom at 20.

Re claim 9, Official notice is taken that clear cylindrical tubes are well known. It would have been obvious to modify the sidewall to have a clear cylindrical tube to view the liquid contents or the absense of liquid.


Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Coates in view of Walles, Kotcharian and Henneck as applied to claim 11 above, and further in view of Dhellemmes et al. (Dhellemmes).

The Coates-Walles-Kotcharian-Henneck combination discloses the invention except for the lining being fastened. Dhellemmes teaches screws 123 for fastening a lining. It would have been obvious to fasten the lining to prevent shifting movement as well as partial or complete detachment and to generally provide a better secured lining.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Castellano whose telephone number is 571-272-4535. The examiner can normally be reached on increased flexibility plan (IFP).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony D. Stashick can be reached on 571-272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Stephen J. Castellano  
Primary Examiner  
Art Unit 3781

sjc